



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/509,983

04/21/2005

Ionel D. Jitaru

14609-0030

2934

7590
Thomas D MacBlain
Gallagher & Kennedy
2575 E Camelback Road
Phoenix, AZ 85016-9225

08/08/2008

EXAMINER

RILEY, SHAWN

ART UNIT

PAPER NUMBER

2838

MAIL DATE

DELIVERY MODE

08/08/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/509,983	Applicant(s) JITARU, IONEL D.	
	Examiner Shawn Riley	Art Unit 2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4th Apr 2008 appeal brief.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-13 and 15-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-13 and 15-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Petition to Withdrawal Restriction

1. Applicant's petition filed on 20 Dec 2007 has been treated as a request for reconsideration and a new non-final action follows below.

Objection to Specification

In the specification brief description at the drawings there is a reference to figure 10e which is should read 10c. Correction is required.

Claim Rejections - 35 U.S.C. § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-8, 10-13 and 15-30 are rejected under 35 U.S.C. § 103 as being unpatentable over Faulk (U.S. Patent 5,757,627) in view of Jansen et al. (U.S. Patent 6,594,161).

Art Unit: 2838

Faulk shows,¹ (in, e.g., the(ir) figures 3a & 3b and corresponding disclosure) the limitations of the invention as claimed as described below. However, Faulk does not clearly show controlling said control input as a result of the characterization. Jensen et al. shows controlling the input based on the results of the sensed wave. It would have been obvious at the time the invention was made to utilize controlling the input as a result of the characterization of Jensen et al. into the circuit of Faulk for the reason of providing switch-off criterion for every level of input voltage (Vo) and output voltage (Vo) of the converter by using characterized waveforms. See column 8 lines 24-29 of Jansen et al.

As to claim 1 and method claim 15²;

A power converter for supplying an output power to a load, comprising: a

¹ Note claims will be addressed individually and the material in parentheses are the examiner's annotated comments. Further unless needed for clarity reasons, recited limitation(s), will be annotated only upon their first occurrence. Annotated claims begin with the phrase "As to claim". Claims that are not annotated are seen as having already had the invention(s) addressed previously in an annotated claim and may be repeated for convenience of the applicant/examiner. Bolded words/phrases indicate rejected material based 112 paragraph rejections. Underlined words/phrases indicate objected to material.

² For method claims 15-17 and 24-30, note that under MPEP 2112.02, the principles of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986). Therefore the previous rejections based on the apparatus will not be repeated.

Art Unit: 2838

switching device (116)³ having a switching input (input into 116), a switching output (output of 116), and a control input (input into 144/142) for enabling or disabling said switching device from conducting current from said switching input to said switching output; and a network wherein said switching device input, said switching device output, and the load are connected together in a circuit; a bias winding⁴ (136/278) in said circuit for producing a bias voltage representative of the output power; and a control circuit (144/142) for (a) determining the rate of change of said bias voltage (column 6 lines 4-7), (b) characterizing said rate of change (e.g., column 6 lines 52-62), and (c) controlling said control input as a result of the characterization (b).

As to claim 2 and claim 19;

The power converter of claim 1, further comprising a power input portion (131) and a power output portion (Vout) for providing said output power, wherein said circuit (144) is in said power output portion.

As to claim 3 and claim 20;

The power converter of claim 2, further comprising a connecting portion (100) for coupling said power input portion to said power output portion, wherein said connecting portion includes an inductor (104) as part of said power output portion, wherein said bias winding is coupled in series (electrically) with said inductor.

As to claim 4 and claim 21;

The power converter of claim 3, wherein said connecting portion includes a transformer (100) having a primary winding as part of said power input portion and a secondary winding which includes said inductor.

As to claims 5, 22, and method claim 16;

The power converter of claim 1, wherein said control circuit is adapted so that the determination (a) includes comparing said bias voltage at a selected time relative to a selected starting value of said bias voltage, and so that the

³ Switching devices have inputs/output inherently. Clearly this concept is well understood by a person of ordinary skill in the art. The switching device is 116 and it has an input and an output.

⁴ 278 directly measure a ratio of the output voltage and thereby produce a bias voltage representative of the output power and feeds directly back into the control circuit via at least 202.

Art Unit: 2838

characterization (b) includes comparing the change in said bias voltage (RAMP input into 144) in (a) to a reference (reference input REF into 144).

As to claim 6 and claim 23;

The power converter of claim 2, wherein said control circuit is adapted so that the determination (a) includes comparing said bias voltage at a selected time relative to a selected starting value of said bias voltage, and so that the characterization (b) includes comparing the change in said bias voltage (RAMP input into 144) in (a) to a reference (reference input REF into 144).

As to claim 7;

The power converter of claim 3, wherein said control circuit is adapted so that the determination (a) includes comparing said bias voltage at a selected time relative to a selected starting value of said bias voltage, and so that the characterization (b) includes comparing the change in said bias voltage (RAMP input into 144) in (a) to a reference (reference input REF into 144).

As to claim 8;

The power converter of claim 4, wherein said control circuit is adapted so that the determination (a) includes comparing said bias voltage at a selected time relative to a selected starting value of said bias voltage, and so that the characterization (b) includes comparing the change in said bias voltage (RAMP input into 144) in (a) to a reference (reference input REF into 144).

As to claim 10 and method claim 17;

The power converter of claim 5, wherein said characterization (b) includes determining whether the rate of change is either high or low compared to said reference (two inputs to be compared are placed into an input terminal of a comparison device and when the variation between the outputs is sufficient a signal is generated at the output of the comparing device which signifies a certain previously set absolute difference has been achieved).

As to claim 11;

The power converter of claim 6, wherein said characterization (b) includes determining whether the rate of change is either high or low compared to said reference (two inputs to be compared are placed into an input terminal of a comparison device and when the variation between the outputs is sufficient a signal is generated at the output of the comparing device which signifies a certain previously set absolute difference has been achieved).

As to claim 12;

The power converter of claim 7, wherein said characterization (b) includes

Art Unit: 2838

determining whether the rate of change is either high or low compared to said reference (two inputs to be compared are placed into an input terminal of a comparison device and when the variation between the outputs is sufficient a signal is generated at the output of the comparing device which signifies a certain previously set absolute difference has been achieved).

As to claim 13;

The power converter of claim 8, wherein said characterization (b) includes determining whether the rate of change is either high or low compared to said reference (two inputs to be compared are placed into an input terminal of a comparison device and when the variation between the outputs is sufficient a signal is generated at the output of the comparing device which signifies a certain previously set absolute difference has been achieved).

As to claim 18 and method claims 24-30;

A power converter for supplying an output power to a load, comprising: a magnetic storage element (104); a switch on a primary side (110) of the magnetic storage element; a synchronous rectifier (116) on a secondary side of the magnetic storage element having a switching input (input into 116), a switching output (output of 116) and a control input (through any of the opening for enabling or disabling said synchronous rectifier from conducting current from said switching input to said switching output; a network wherein said switching input, said switching output and the load are connected together in a circuit; a bias winding in said circuit for producing a bias voltage representative of the output power; and a control circuit (144/142) operatively connected to: (a) determine the rate of change of said bias voltage (e.g., column 6 lines 52-62), (b) characterize said rate of change, and (c) control said control input as a result of the characterization (see, e.g., how the master controller can reside either in the input or output circuits at column 6 lines 63-66)(b).

Art Unit: 2838

Allowable Subject Matter

2. No claims are allowable over the prior art of record.

Conclusion

Any inquiry from other than the applicant/attorney of record concerning this communication or earlier communications from the Examiner should be directed to the Patent Electronic Business Center (EBC) at 1.866.217.9197. Any inquiry from a member of the press concerning this communication or earlier communications from the Examiner or the application should be directed to the Office of Public Affairs at 703.305.8341.

Any inquiry from the applicant or an attorney of record concerning this communication or earlier communications from the Examiner should be directed to Examiner Riley whose telephone number is 571.272.2083. The Examiner can normally be reached Monday through Thursday from 7:30-6:00 p.m. Eastern Standard Time.

The Examiner's Supervisor is Akm Enayet Ullah who can be reached at 571.272. 2361. Any inquiry about a case's location, retrieval of a case, or receipt of an amendment into a case or information regarding sent correspondence to a case **should be directed to 2800's Customer Service Center** at 571.272.2815.

Any papers to be sent by fax MUST BE sent to fax number **571-273-8300**. Any inquiry of a general nature of this application should be **directed to the Group receptionist** whose telephone number is 571.272.2800. Status information of cases may be found at <http://pair-direct.uspto.gov> wherein unpublished application information is found through private PAIR and published application information is found through public PAIR. Further help on using the PAIR system is available at 1.866.217.9197 (Electronic Business Center).

July 2008

/Shawn Riley/

Primary Examiner

/sr/

/Akm Enayet Ullah/

Supervisory Patent Examiner, Art Unit 2838